

WHAT IS CLAIMED IS:

1. A catalyst containing gold in elemental or bound form and molybdenum in oxidation state +VI.
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2. The catalyst according to Claim 1, wherein the molybdenum is present in octahedral coordination.
3. A process for the preparation of the catalyst according to Claim 1,
10 comprising the steps of:

applying gold in elemental or bound form to a carrier matrix,

applying molybdenum to the carrier matrix, and
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tempering the carrier matrix loaded with gold and molybdenum at a
temperature of from 200 to 500°C, with the substantial exclusion of
oxygen.
- 20 4. The catalyst obtained by the process according to Claim 3.
5. In a process for the oxidation of a hydrocarbon containing at least one
double bond to an epoxide, the improvement comprising reacting the
hydrocarbon with an oxygen source in the presence of a hydrogen source
25 and in the presence of the catalyst according to Claim 1.